



Complete Summary

TITLE

Adult diabetes: percentage of patients receiving one or more A1c test(s).

SOURCE(S)

National Diabetes Quality Improvement Alliance performance measurement set for adult diabetes. Chicago (IL): National Diabetes Quality Improvement Alliance; 2003 May 1. 11 p.

Brief Abstract

DESCRIPTION

This measure assesses the percentage of adult diabetes patients aged 18-75 years receiving one or more A1c test(s) per year.

This measure is used for the purposes of quality improvement and public reporting. The measure is currently in use for public reporting through the National Committee on Quality Assurance (NCQA) HEDIS® Program.

RATIONALE

Intensive therapy of glycosylated hemoglobin (A1c) reduces the risk of microvascular complications.

American Association of Clinical Endocrinologists/American College of Endocrinology (AACE/ACE) recommends that a glycosylated hemoglobin be performed during an initial assessment and during follow-up assessments, which should occur at no longer than three-month intervals.

AACE/ACE recommend that A1c be universally adopted as the primary method of assessment of glycemic control. On the basis of data from multiple interventional trials, the target for attainment of glycemic control should be A1c values less than or equal to 6.5%.

American Diabetes Association (ADA) recommends obtaining a glycosylated hemoglobin during an initial assessment and then routinely as part of continuing care. In the absence of well-controlled studies that suggest a definite testing protocol, expert opinion recommends glycosylated hemoglobin be obtained at least twice a year in patients who are meeting treatment goals and who have stable glycemic control and more frequently (quarterly assessment) in patients whose therapy was changed or who are not meeting glycemic goals.

Because different assays can give varying glycated hemoglobin values, the ADA recommends that laboratories only use assay methods that are certified as traceable to the Diabetes Control and Complications Trial A1c reference method. The ADA's goal for glycemic control is A1c less than 7%.

Clearly, the clinical recommendations and treatment goals for persons with diabetes define the target A1c level as less than or equal to 6.5% or less than 7.0%. Please note, however, that the Alliance public reporting measure focuses on "poor control" as opposed to "target, or good control." The Alliance public reporting measure for poor control is greater than 9.0% for several reasons:

1. Many valid clinical reasons may exist why an individual patient does not achieve an A1c level less than or equal to 6.5% or less than 7.0%. Therefore, it is not appropriate to hold a large group (e.g., a health plan) accountable for a population reaching an A1c level less than or equal to 6.5% or less than 7.0%. Most would agree, however, that an A1c level greater than 9.0% is poor control for all patient types. The QI measures enable a provider to track an individual patient's progress toward the target goal.
2. For population-based measurement, it is desirable to have a distribution of results so that populations can be distinguished. Based on National Committee for Quality Assurance (NCQA) Health Plan Employer Data and Information Set (HEDIS®) data, 36.9% of health plans reporting data in 2001 had population level A1c values greater than 9.5%. Therefore, the median value is less than 9.5%.
3. Because of the National Glycohemoglobin Standardization Program, the vast majority of laboratories now use standardized assays. Because of the decreased variability in laboratory procedures, the overall reported levels for A1c have decreased.

PRIMARY CLINICAL COMPONENT

Diabetes mellitus; hemoglobin A1c

DENOMINATOR DESCRIPTION

All patients diagnosed with diabetes aged 18-75 years

NUMERATOR DESCRIPTION

The number of patients from the denominator who received one or more A1c test(s)

Evidence Supporting the Measure

PRIMARY MEASURE DOMAIN

Process

SECONDARY MEASURE DOMAIN

Not applicable

EVIDENCE SUPPORTING THE MEASURE

A clinical practice guideline or other peer-reviewed synthesis of the clinical evidence

A formal consensus procedure involving experts in relevant clinical, methodological, and organizational sciences

One or more research studies published in a National Library of Medicine (NLM) indexed, peer-reviewed journal

NATIONAL GUIDELINE CLEARINGHOUSE LINK

- [The American Association of Clinical Endocrinologists medical guidelines for the management of diabetes mellitus: the AACE system of intensive diabetes self-management--2002 update.](#)

Evidence Supporting Need for the Measure

NEED FOR THE MEASURE

Wide variation in quality for the performance measured

EVIDENCE SUPPORTING NEED FOR THE MEASURE

American Association of Clinical Endocrinologists, American College of Endocrinology. Medical guidelines for the management of diabetes mellitus: the AACE system of intensive diabetes self-management--2002 update. Endocr Pract 2002 Jan-Feb;8(Suppl 1):40-82. [96 references]

Diabetes Control and Complications Trial Research Group. The absence of a glycemic threshold for the development of long-term complications: the perspective of the Diabetes Control and Complications Trial. Diabetes 1996 Oct;45(10):1289-98. [PubMed](#)

Diabetes Control and Complications Trial Research Group. The effect of intensive treatment of diabetes on the development and progression of long-term complications in insulin-dependent diabetes mellitus. N Engl J Med 1993 Sep 30;329(14):977-86. [PubMed](#)

Standards of medical care for patients with diabetes mellitus. Diabetes Care 2002 Jan;25(Suppl 1):S33-49. [91 references]

U.K. Prospective Diabetes Study (UKPDS) Group. Intensive blood-glucose control with sulphonylureas or insulin compared with conventional treatment and risk of complications in patients with type 2 diabetes (UKPDS 33). Lancet 1998 Sep 12;352(9131):837-53. [PubMed](#)

State of Use of the Measure

STATE OF USE

Current routine use

CURRENT USE

Internal quality improvement
National health care quality reporting

Application of Measure in its Current Use

CARE SETTING

Ambulatory Care
Community Health Care
Managed Care Plans
Physician Group Practices/Clinics
Rural Health Care

PROFESSIONALS RESPONSIBLE FOR HEALTH CARE

Advanced Practice Nurses
Physician Assistants
Physicians

LOWEST LEVEL OF HEALTH CARE DELIVERY ADDRESSED

Individual Clinicians

TARGET POPULATION AGE

Age 18-75 years

TARGET POPULATION GENDER

Either male or female

STRATIFICATION BY VULNERABLE POPULATIONS

Unspecified

Characteristics of the Primary Clinical Component

INCIDENCE/PREVALENCE

- Total: 18.2 million people - 6.3% of the population - have diabetes
- Diagnosed: 13 million people

- Undiagnosed: 5.2 million people
- New cases diagnosed per year: 1.3 million
- About one third of these individuals do not know that they have the disease.

EVIDENCE FOR INCIDENCE/PREVALENCE

American Diabetes Association. Diabetes statistics. [internet]. Alexandria (VA): American Diabetes Association; [cited 2004 Jun 11]. [2 p].

National diabetes fact sheet: national estimates on diabetes. [internet]. Atlanta (GA): Centers for Disease Control and Prevention (CDC), National Center for Chronic Disease Prevention and Health Promotion; 2003 [updated 2003 Dec 04]; [cited 2004 Feb 01]. [8 p].

ASSOCIATION WITH VULNERABLE POPULATIONS

Unspecified

BURDEN OF ILLNESS

- Diabetes is the leading cause of end-stage renal disease, accounting for 43% of new cases. Adults with diabetes account for more than 60% of nontraumatic lower limb amputations and are also twice as likely to have heart disease than people without diabetes.
- Diabetes is the sixth leading cause of death listed on U.S. death certificates in 2000. This is based on the 69,301 death certificates in which diabetes was listed as the underlying cause of death. Altogether, diabetes contributed to 213,062 deaths.
- Complications from diabetes include heart disease, stroke, hypertension, retinopathy, end-stage renal disease, peripheral neuropathy, non-traumatic lower limb amputations, periodontal disease, pregnancy complications affecting mother and fetus, ketoacidosis, and coma.
- Intensive therapy of glycosylated hemoglobin (A1c) reduces the risk of microvascular complications.

EVIDENCE FOR BURDEN OF ILLNESS

American Association of Clinical Endocrinologists, American College of Endocrinology. Medical guidelines for the management of diabetes mellitus: the AACE system of intensive diabetes self-management--2002 update. Endocr Pract 2002 Jan-Feb;8(Suppl 1):40-82. [96 references]

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UTILIZATION

Unspecified

COSTS

- 2002 cost of diabetes in the United States: \$132 billion
- Direct medical costs: \$92 billion
- Indirect costs: \$40 billion (disability, work loss, premature mortality)

EVIDENCE FOR COSTS

American Diabetes Association. Diabetes statistics. [internet]. Alexandria (VA): American Diabetes Association; [cited 2004 Jun 11]. [2 p].

National diabetes fact sheet: national estimates on diabetes. [internet]. Atlanta (GA): Centers for Disease Control and Prevention (CDC), National Center for Chronic Disease Prevention and Health Promotion; 2003 [updated 2003 Dec 04]; [cited 2004 Feb 01]. [8 p].

Institute of Medicine National Healthcare Quality Report Categories

IOM CARE NEED

Living with Illness

IOM DOMAIN

Effectiveness

CASE FINDING

Users of care only

DESCRIPTION OF CASE FINDING

All patients diagnosed with diabetes aged 18-75 years

DENOMINATOR SAMPLING FRAME

Patients associated with provider

DENOMINATOR (INDEX) EVENT

Clinical Condition

DENOMINATOR INCLUSIONS/EXCLUSIONS

Inclusions

All patients diagnosed with diabetes aged 18-75 years

Exclusions

None

NUMERATOR INCLUSIONS/EXCLUSIONS

Inclusions

All patients receiving one or more A1c test(s)

Exclusions

None

DENOMINATOR TIME WINDOW

Time window follows index event

NUMERATOR TIME WINDOW

Fixed time period

DATA SOURCE

Administrative data

Laboratory data

Medical record

LEVEL OF DETERMINATION OF QUALITY

Individual Case

PRE-EXISTING INSTRUMENT USED

None

Computation of the Measure

SCORING

Rate

INTERPRETATION OF SCORE

Better quality is associated with a higher score

ALLOWANCE FOR PATIENT FACTORS

Unspecified

STANDARD OF COMPARISON

Internal time comparison

Evaluation of Measure Properties

EXTENT OF MEASURE TESTING

Unspecified

Identifying Information

ORIGINAL TITLE

Percentage of patients receiving one or more A1c test(s).

MEASURE COLLECTION

[National Diabetes Quality Improvement Alliance Performance Measures](#)

MEASURE SET NAME

[National Diabetes Quality Improvement Alliance Performance Measurement Set for Adult Diabetes](#)

DEVELOPER

National Diabetes Quality Improvement Alliance

INCLUDED IN

National Healthcare Disparities Report (NHDR)
National Healthcare Quality Report (NHQR)

ADAPTATION

Measure was not adapted from another source.

RELEASE DATE

2003 May

MEASURE STATUS

This is the current release of the measure.

SOURCE(S)

National Diabetes Quality Improvement Alliance performance measurement set for adult diabetes. Chicago (IL): National Diabetes Quality Improvement Alliance; 2003 May 1. 11 p.

MEASURE AVAILABILITY

The individual measure, "Percentage of Patients Receiving One or More A1c Test(s)," is published in the "National Diabetes Quality Improvement Alliance Performance Measurement Set for Adult Diabetes." This document is available in Portable Document Format (PDF) from the [National Diabetes Quality Improvement Alliance Web site](#).

NQMC STATUS

This NQMC summary was completed by ECRI on December 9, 2003. The information was verified by the measure developer on August 19, 2004.

COPYRIGHT STATEMENT

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